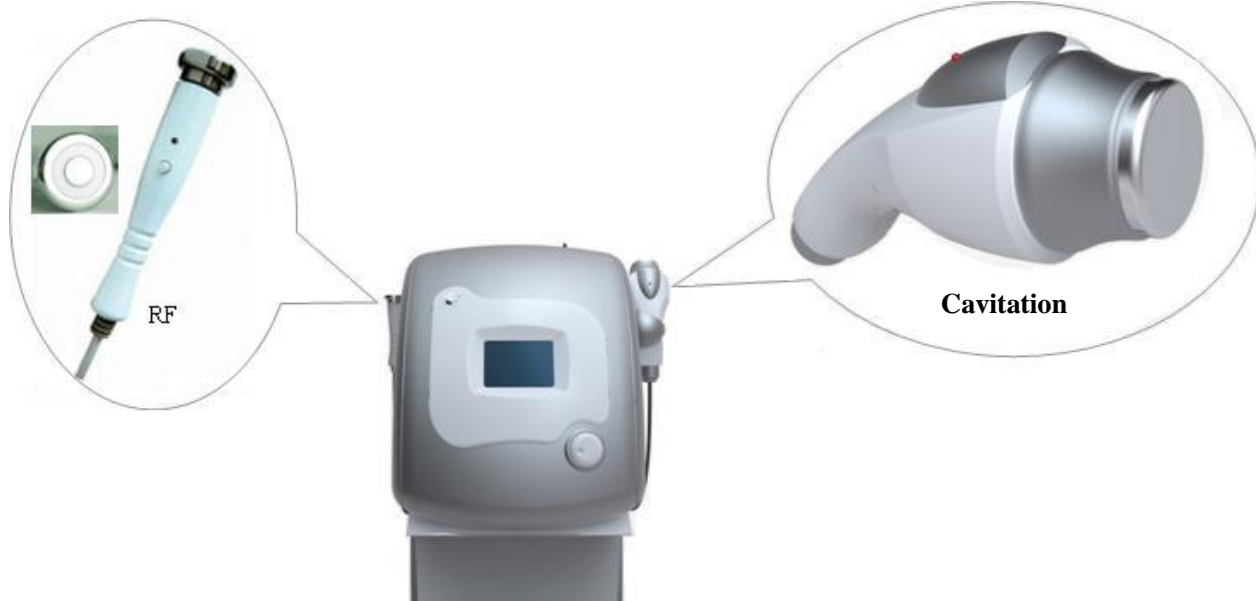




Reverse Time, Regain Youth

OPERATING & CLINICAL Manual
CAVITATION LUNA II
Version 1.1

Machine overview



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Chapter I SUMMARY

As we know, the object will make sound while vibrating. The scientists take vibration times per second as sound frequency, measured by hertz. What human could hear is 20~20,000Hz. When sound frequency is above 20,000Hz, or no more than 20Hz, we can not hear it. Therefore, we take the sound wave with the frequency above 20,000 Hz as the ‘Ultrasonic’. Usually, the ultrasonic with frequency 1~5MHz is used for medical treatment. It has the advantages of good direction, high penetrative capability, easy to get concentrative sound energy, long propagation distance under water, and can be used for range acquisition, speed testing, clearing, welding, gravelling, etc.,...and have many applications in Medical, Military, Industry, Agriculture...

Once upon a time, when navy ships were sailing in the sea, many pinholes appeared in propeller, which caused much attention and made people research on this phenomenon. When the object travels in water with high speed, pressure will be dramatically reduced in the interface between solid and liquid. Sometimes, it even causes vacuum, and forms low pressure tiny bubbles at the same time. Under the water pressure, those bubbles break down rapidly and become kind of strong shockwave, which is “Cavitation” phenomenon. In the past two years, it is used in Aesthetic Industry, so far , it has become the newest top technology for partial cellulite reduction.

With the development of technology, traditional Liposuction comes to the end gradually. The safer and more effective weight lost method emerges. Toplaser has promoted Cavitation Cellulite Reduction Equipment, which helps more people achieving their dreams of slender shapes. This equipment is completely different from general ultrasonic machines. The table below shows the differences between cavitation cellulite reduction and general ultrasonic.

	Frequency	Superficial Chemical Effect & Terminal Effect	Cavitation Phenomenon	Treatment Depth
Cavitation	30K~40KHZ	10%	90%	Adipose Layer
General Ultrasonic	3MHZ	90%	10%	Superficial Layer

Chapter II OPERATING INSTRUCTION

2.1 Accessory



Electric Power Cord



Footswitch



Key



Cavitation handpiece



RF handpiece



RF Power Selection Button

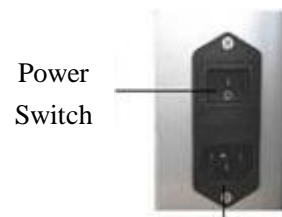
2.2 Installation



Cavitation Handpiece Connector
Handpiece Connector Connector



Fan



Power Cord
Connector



First step: Insert and connect the cavitation Handpiece.



Second step: Insect and connect RF Handpiece.



Third step: Insert and connect Footswitch.



Forth step: Insert electric power cord into power cord connector, and switch on.



Cavitation Handpiece and RF Handpiece in Holder.

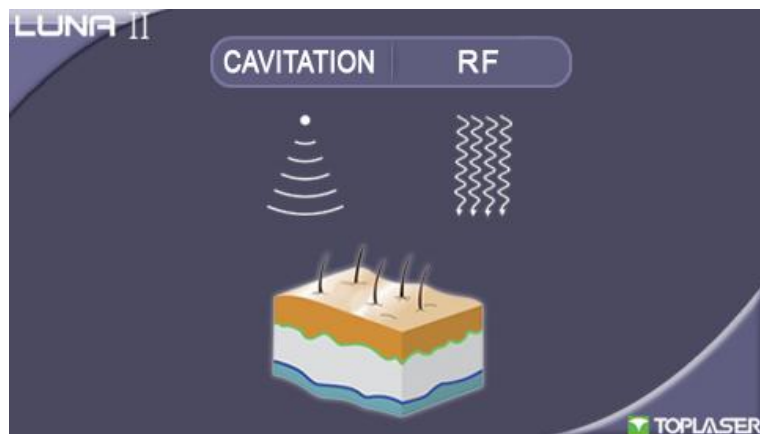
2.3 On/Off Illustration:

The first step: Turn Power Switch to the “ I ” state and now the LED indicator is illuminated. . Then turn the Key Switch to “ON” and the machine is in the working mode. The screen enters into opening interface (refer to Picture 1) and 5 seconds later, into the operation interface.



Picture 1

The second step: select “CAVITATION” into cellulite reduction program, or “RF” into skin tightening program (refer to Picture 2);



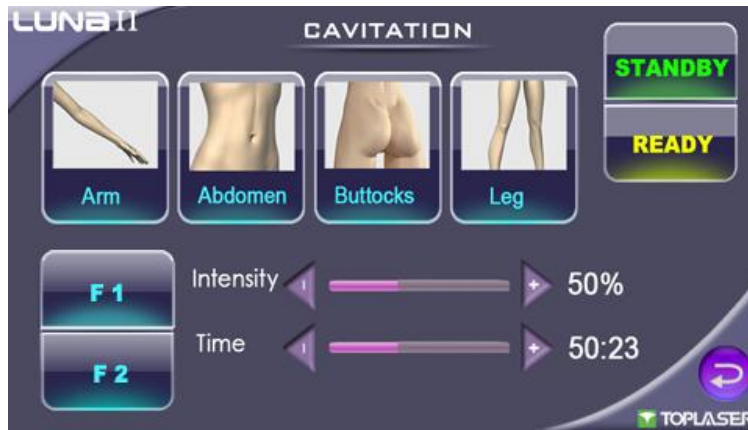
Picture 2

The third step:

A, If cellulite reduction program, select the treatment targets here. Totally, there are four options: Arm, Abdomen, Buttocks, Leg. Select **F1** (skin firming) or **F2** (body shaping) for different treatment purpose. Push the “+” or “-” buttons of “**Intensity**” to adjust the treatment power, 20%~100% adjustable, step by 10%; Push the “+” or “-” buttons of “**Time**” to adjust the treatment time, 0~60min adjustable, step

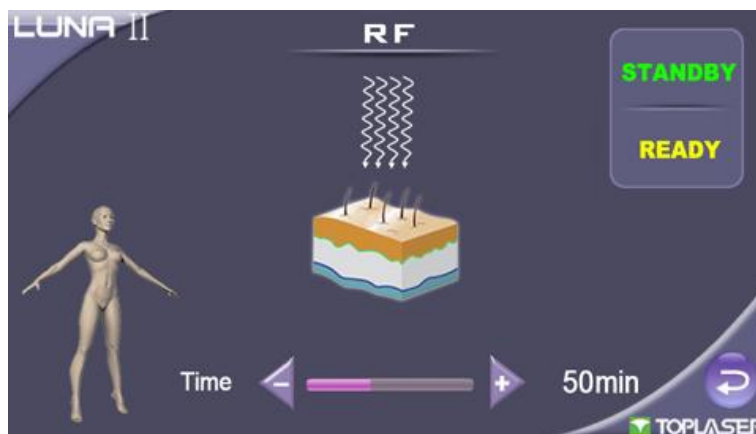
by 5min. After setting all the parameters, press the “**READY**” button to enter into working state and then press Footswitch. When releasing Footswitch, the treatment stops. Then press the “**STANDBY**”

button, it enters into the safe state. Press Return Button  back to the selection interface (Picture 3);



Picture 3

B, Select “RF” into skin tightening program. You can choose the treatment time, from 0-60min adjustable and the RF power, adjustable by RF Power Selection Button, clockwise to increase, counterclockwise to reduce from Level 1 to Level 10. After setting the parameters, press the “**READY**” button to enter into working state and then press Footswitch. When releasing Footswitch, the treatment stops. Then press the “**STANDBY**” button, it enters into the safe state. Press Return Button back to the selection interface (Picture 4);



Picture 4

The fourth Step: Rotate the key switch to “OFF” and push Power Switch to the “0” state

2.4 Operation Notice:

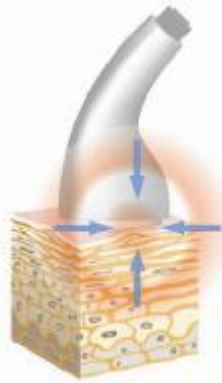
- I Keep away from radios and other equipment;
- I Must use cooling gel for skin protection;
- I Keep Handpiece moving constantly during the operation, to prevent the skin overheating;
- I Make sure to use the correct Handpiece in the correct operation interface;
- I Before shut off the equipment, please firstly enter into “**STANDBY**” mode.
- I There is anti-interference function for the software. The equipment may automatically reset;
- I When unexpected powers off, please wait for I minute and then switch on because the software program has self-protection function.

Chapter III CAVITATION PROTOCOL

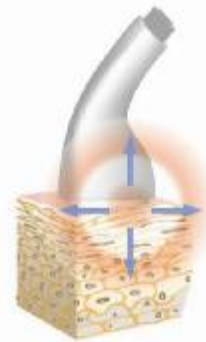
3.1 Theory

Through the low frequency vibration of ion, cavitation reaches the ideal effect for cellulite reduction. The vibration of ion wave would produce a strong power through positive and negative alternation, which brings different pressure to the cell membranes internally and externally. When cell membrane can not endure the pressure, it will explode, break into liquid and get out of human body by metabolism. The quantity of fat cell is reduced. The ideal effects for cellulite reduction will be achieved and the fat cell metabolism also will be improved.

Cavitation Schematic Diagram



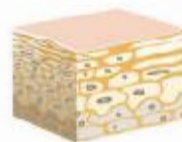
A. During the shrinking cycle, the ion wave forms positive pressure effect around the liquid molecules and fat cells.



B. During the expansion cycle, the ion wave forms positive pressure effect around the liquid molecules and fat cells.



C. When shrinking and expansion cycle alternation, the ion wave forms many microvoids in fat cells, where molecules are weak in adhesion, called "Cavitation" in Physics.



D. The implosive results induced by Cavitation will give rise to the strong molecular motion, eventually leading to fat cell explode, break down, and then be metabolized out of the body. So the fat cells decrease.

3.2 Applications

Reduce cellulite, ease muscle tension and improve the body's metabolism

3.3 Parameter Setting (40 KHZ)

Treatment Area		Time (F 2)	Time (F 1)	Power Setting	Session	
Abdomen		20min	10min	40%~70%	2times/week	8~10 times/session
Leg (one-side)	Thigh	10min	10min	30%~50%	1time/week	
	Lower Leg	5min	5min	30%~40%	3times/week	
Buttocks (one-side)		5min	10min	30%~50%	2times/week	
Buttocks (one-side)		5min	5min	20%~40%	3times/week	

Notes: The above energy setting is for one certain treatment area. The total treatment time can not be over 60 minutes in one week in one treatment area. It is highly recommended to reduce session if patient takes treatments for more than one area within one week. However, each treatment time shall be remained. For example, Patient treats abdomen and thigh within one treatment, abdomen treatment shall be 20min (F2) / 10 min (F1), thigh treatment 10 min (F2)/ 10min (F1), but abdomen treatment shall be carried out only one time during each week. Thigh treatment remains one time for each week.

3.4 Contraindication

1. People suffering from liver disease.
2. Severe hypertension, hyperlipidemia, diabetes mellitus, and poor circulation in blood and lymph.
3. Pregnant and baby-nursing women.
4. People with metal instrument buried in the body or with heart pacemaker.
5. Being allergic skin or skin surface with inflammation or wounds.
6. The face, neck, ankle, lymph nodes and joints can not be treated with Cavitation.
7. Women abdomen during menstrual period.
8. Person who is in fever.
9. Vascular veins can not be treated.

3.5 Treatment Procedure

3.5.1 Preparation

- A. Treatment material preparation: Cooling gel, a one-time treatment towel, cleaning supplies, Tape measure, markers.
- B. Photograph records (photographs taken at the same angle).
- C. Measuring circumference and record (in the abdomen as an example)
- D. Use warm water cleansing treatment area.

Technique: To the navel as the center, respectively mark 4 points in tow side and back of the waist horizontally. Also mark tow more points 5cm up and blow each 4 points vertically. Measure and record all horizontal point before and after treatment. (As shown below)



(1) Set navel as center, mark 2 points up and below 5cm each vertically



(2) Same way on the side of the waist



(3) Same way, on the back of waist.



(4) Measure each 4 points horizontally at Navel Level.



(5) Measure each 4 points horizontally 5cm Below Navel Level.

3.5.2 Treatment and notice

A. The principle of energy options

As the average thickness of fat in various parts of different, the treatment time and energy can be adjust according to actual situation, also based on customer's experience and skin condition, adjust range for energy normally is around 10%, Some mhuirance strong customer, you adjust the energy by feeling the skin temperature, be aware the over heated.

B. Treatment Technique.

(1) Ventral Treatment.



(1)



(2)

Apply cooling gel first in the abdomen (Figure 1), then start operations, to the navel as the center, using treatment handpiece squeeze with the hand on the fat, and slow-moving handpiece, speed should not be too fast, the standard rate of 1s moving 1cm (such as the Figure 2), the treatment shown in the following order (1) ~ (8).



(3)



(4)



(5)



(6)



(7)



(8) Side Waist Treatment.

2) Treatment for Leg



(1)



(2)

Apply cooling gel first on the Leg (1), then start operations, using treatment handpiece squeeze with the hand on the fat, and slow-moving handpiece, speed should not be too fast, the standard rate of 1s moving 1cm (4), the treatment shown in the following order (5) ~ (8).



(3)



(4)



(5)



(6)



(7)



(8)

(3) Arm treatment



(1)



(2)



(3)

Firstly, apply the cooling gel on the upper arm (Picture 5). Then start to operate, using handpiece and squeeze fat to treat. The treatment sequence is as in the picture above (1) ~ (3) .

C. Operation Attention

- ① Ensure the handpieces are held stably and efficiently.
- ② The Footswitch can be stepped when the handpiece is placed against the skin;
- ③ The handpiece speed can't be too fast, and the recommended speed is 1m/1s;
- ④ The handpiece can't be stayed in one place for a long time.
- ⑤ Need to reduce the energy or increase the speed when the customers feel intense stinging and burning.
- ⑥ Keep the handpiece clear of bones and joint parts of the body during the treatment.

D. Normal post-treatment reaction

- ① Tinnitus in the ear (the sound wave passing from the skeleton to the ear)
- ② Sense of little heat (The energy is produced when the vacuum bubbles are broken)
- ③ Sense of little stinging (The pain nerves are located in the epidermis, it reacts with the aqua of cooling gel when the cavitation is applied on skin).

E. Abnormal reaction and causes

- ① The Roseola will disappear in the 1-2 hours after treatment when it appears in the operation and post-treatment.

Causes: 1. The customers' skins are too sensitive

2. It is an unabiding hypersusceptibility phenomenon of the epidermis because of the vacuum bubbles working on the epidermis. The bubbles are produced when Cavitation takes place in the water of the cooling gel.

Solution: 1. Reduce energy 2. Take certain anti-allergic medications

- ② Circumference getting bigger after the treatment

Cause: The customer's body has a strong reaction to the cavitation shock wave, so they will have temporal edema.

Solution: reduce energy.

3.5.3 Post-treatment Attention

(1) Detoxification treatment is recommended to be carried out 24 hours after cavitation treatment. The 2nd detoxification treatment can be in another 2-4 days.

(2) Reasonable diet control.

- ① Avoiding eating too much animal oil, butter and cheese
- ② Little Seed fat is ok, olive oil is better.

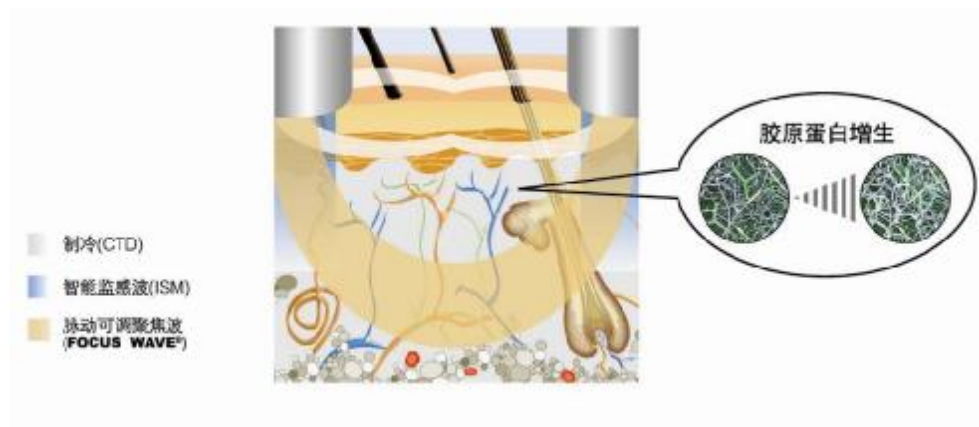
- ③ NOT take in carbohydrate food, including rice, noodle, dessert, sugars and so on in three days after treatment.
- ④ Little rice and noodle on the fourth day after treatment, only at lunch.
- ⑤ Try not to eat any dessert and sugars during and after treatment.
- ⑥ Eat certain fruit
- ⑦ Complement the amount of protein.
- (3) The amount of drinking water guarantee during 1.5—2L.
- (4) With the physical exercises to achieve the energy consumption of fat on the best Fat Burn Heart Rate, and also do some muscle training.

Chapter IV RF PROTOCOL

Radio Frequency: RF is the abbreviation of Radio Frequency, a kind of high frequency current. Alternating current whose change less than 1000 times per second is called the low-frequency current, or is the high frequency current.

4.1 The treatment Principle of RF

Positioned tissues are heated to promote blood circulation and tighten the collagen in dermis. At the same time, the cooling measures are taken on the skin surface; the dermal layer of the epidermis is heated to maintain a normal temperature. Most of RF energy enter into the deeper dermal layer, so that deeper layers of skin to be up to 45 °C -60 °C, dermal layer of skin become thickened, and the wrinkles are shallow or disappear, so the skin become firmer and contour are lifted. The original collagen protein become thickened to increase the new collagen protein which are produced by irritate the skin.



4.2 Treatment Item

Wrinkle removal	improve pouch, dark circle
Contract pore	improve dull tone skin
Fade spots	increase skin elasticity and burnish
Contract double chin	Tighten skin (whole body) lift contour
Skin whitening	improve acne scar

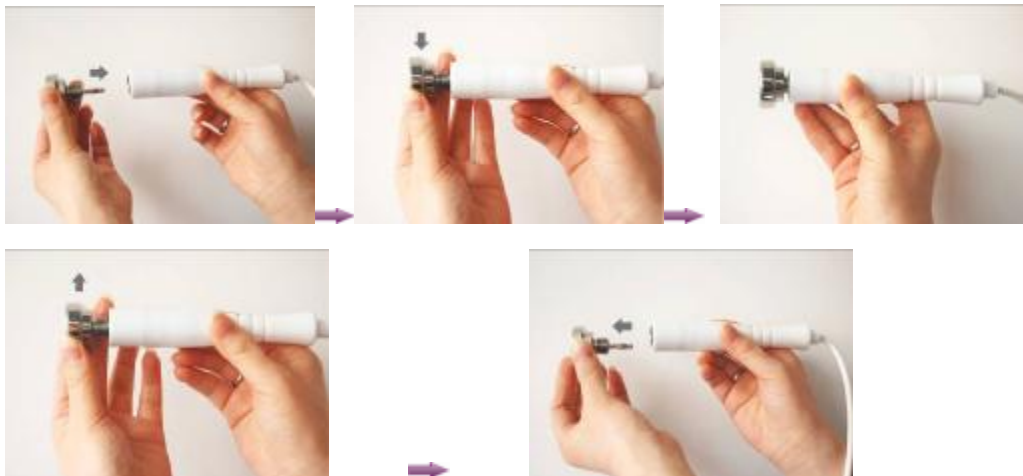
4.3 Contraindication

- 1、 Pregnant woman, abdomen (during menstrual period)
- 2、 Audiphones, cardiac pacemaker, etc metal medical apparatus and steel nail, steel plate implant in the human body
- 3、 Skin disease, the inflammation of the skin
- 4、 Malignant tumors
- 5、 Upper eyelid
- 6、 Don't stay on the skin.

4.4 Treatment Procedure

4.4.1 The installment, split and accessories

Installment: Handpiece head lines up hand shank screw. Hold hand shank, simultaneously whirl the handpiece head toward inner side until handpiece and hand shank fasten together. That's the whole installment of handpiece.



Disassembly: Hold the handpiece, rotate the tip anticlockwise until it apart from the handpiece. Deposit well for next time use.

4.4.2 Introduction of treatment tips

- I Medium size tip: Apply to face, neck and hand.



- I Small size tip: Apply to rim of the eye, mouth and nose.



4.4.3 Operating demonstration

- (1) Preparation: Conducting medium



RF Oil



Cooling Gel

Different between RF Oil and Cooling Gel: RF oil could conduct heat faster and more uniform, shorten the operation time; Cooling Gel treatment brings a little slow heat and requires a longer time.

- (2) Facial treatment : (RF Oil for instance)



Step1: Apply RF oil evenly on the face and keep circle moving at even pace from jowl to basal part of the ear.



Step2: Lift from corners of the mouth to the part of cheek in front of ear.



Step3: Move from inner to outer corner of eye.



Step4: Keep circle moving at even pace on forehead.



Step5: Using the small size tip, move from inner to outer corner of eye.



Step6: Keep circle moving at the wrinkle between eyebrows, then move to tip of nose at even pace, after that make circle moving on nose wings.



Step7: Make half round moving around mouth.

(3) Neck Treatment



Step1: Lift from upward side of collarbone to lower jaw bone.



Step2: Lift from upward side of collarbone to lower jaw bone keep clear of prominentia laryngea.

Chapter V RELATIVE KNOWLEDGE

5.1 About Fat

1 Definition of fat:

Fat cell is made up of one molecule of glycerol and three molecules of fatty acids, so fat cell also named triglyceride. It is mainly store in subcutaneous layer, around kidney, great omentum and mesenterium. Adult male has a fat content of 10%~20% of his weight, female is a little bit on the higher side.

2 Function of fat

(1) Energy supply & store: The energy produced by completely oxidizing of fat in body can be more than two times of the energy produced by commensurable sugar and protein. Fat is effective energy storage material. On an empty stomach, 50% of the required energy in body comes from fat oxidizing; One to three days without food, about 85% of the required energy in body comes from fat oxidizing.

(2) Keep up body temperature. Fat is not easy to conduct heat. Subcutaneous fat could keep body temperature invariable.

(3) Protect internal organs. Fat around internal organs just like insole could buffer mechanical impact avoiding injuries

5.2 Cause and Types of fat

1 Cause:

Fat cell amount stays remain in adolescence period, no increasing or decreasing. Adiposis is caused by continuously expanding of fat cells. The cause of fat is: ①Energy intake is more than energy cost, extra energy is stored in form of fat in body; ②Metabolic disorder caused by diseases, medicine or endocrine dyscrasia, toxins couldn't be eliminated out of body.

2 Fat Classifications

(1) Muscle fat: during strenuous exercise, a great amount of lactic acids is produced in muscle tissues, some acids can not be metabolized in time, they will stay in lipocyte and finally lead to muscle fiber hypertrophy.

(2) Hydrops fat: Due to the problem of body metabolism, the lymphatic is closed up while the capilliary vessel will generate so much fluid among histiocyte that lead to swelling and laxity, especially on four limbs.

3 Phlegmona fat:

The surface of skin appears convex-concave, and there will be a range of honeycomb dell after figure press. Due to exhaustion or lack of physical exercise, the increasing big lipocyte will be pushed into connective tissue of the dermis, and then the lipocyte will minimal the cell distance and in some way squeeze micro vessel, remaining water and metabolite in adipose layer.

5.3 Weight Information

Weight index BMI= weight (kg)/ height (meter), according to the form weight the patient weight

	Western BMI index	Asia BMIindex
thin	< 18.5	< 18.5
normal	18.5~24.9	18.5~22.9
overweight	> 25	> 23
fat	> 30	> 25
Superheavy	> 35	> 30

APPENDIX

1.Pre-treatment form

name		sex		age		phone	
Medical history							
Take medicine about steroids or not soon							
BMI	weight (kg) _____ / height (m) ² _____ = _____ normal: 18.5~22.9 overweight: >23						
Weight change (in ten years)							
diet (time、kind、qunatity、sock water and so on)							
Sports (climing、sport、walking)							
Type of the lipocyte	<input type="checkbox"/> muscle <input type="checkbox"/> dropsy						
Course of the treatment							

2. Cavitation treatment form

name		sex		age		phone	
The size before treatment							
times	date	Size after treatment	energy	time		Customer signature	beautician signature
				F 1	F 2		
1							
2							
3							
4							
5							
6							
7							
8							
9							